

# When Breast-feeding is *not* Contraindicated

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## SUMMARY

As more mothers elect to breast-feed, more concomitant problems in mothers and babies are reported that are thought to contraindicate breast-feeding. Many frequently cited maternal and infant reasons for stopping breast-feeding are not valid. Breast-feeding can usually be maintained if the physician remembers that breast-feeding is important for the baby and mother and not simply another feeding method.

## RÉSUMÉ

Avec l'augmentation croissante du taux d'allaitement maternel, on rapporte chez les mères et les nourrissons plus de problèmes concomitants considérés comme étant des contre-indications à l'allaitement au sein. Parmi les raisons mentionnées fréquemment pour cesser l'allaitement au sein, tant chez les mères que chez les nourrissons, beaucoup d'entre elles ne sont pas valables. De façon générale, on peut poursuivre l'allaitement au sein si le médecin garde en mémoire que l'allaitement est important autant pour le nourrisson que pour la mère et qu'il n'est pas simplement une autre méthode d'alimentation.

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**T**HE RATE OF INITIATION OF breast-feeding in Canada has increased from a low of about 25% in the 1960s and 1970s to a present level of close to 80% depending on geographical area and other socioeconomic factors.<sup>1,2</sup> Similar trends have been noted in most industrialized societies.<sup>3</sup> As more mothers are breast-feeding and are continuing to breast-feed longer, physicians are seeing an increase in circumstances that they consider contraindications to breast-feeding. This is regrettable because many mothers, because of such factors as poor management of breast-feeding during the early days after delivery,<sup>4</sup> struggle valiantly to establish breast-feeding and do manage sometimes against all odds. Even if breast-feeding is established smoothly, however, it is still a pity to stop breast-feeding unnecessarily, since this deprives the baby of the benefits of breast milk and the mother of the benefits of breast-feeding.

This article shall review common reasons for stopping breast-feeding, based, in part, on calls to the Hospital for Sick Children Breastfeeding Clinic telephone hotline, which receives an average of 15 to 25 calls during each 12-hour day. I believe that breast-feeding is not contraindicated in .....

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most of these cases and that, most often, alternative strategies can allow the mother to continue breast-feeding.

## Maternal reasons

**Medication.** Medication should, of course, be prescribed only if indicated. This is especially true for breast-feeding mothers. Since most medications will pass into the milk, the baby will usually have some exposure to the maternal drug. However, in most cases, breast-feeding can continue.<sup>5-8</sup> When the drug is among the very few that are definitely contraindicated, an alternative acceptable drug can often be found. For example, metronidazole should be used with caution in the breast-feeding mother, though the American Academy committee on drugs no longer has it listed as contraindicated.

If the mother needs treatment for a suspected anaerobic infection, cefoxitin or clindamycin is acceptable.<sup>8</sup> *Trichomonas vaginalis* infection can be treated with a single dose rather than a 10-day course of medication. But with asymptomatic infection (frequently picked up from Pap smear at the 6-week postpartum visit), treatment should be deferred.

The physician should consider all aspects of the situation. Remember that breast-feeding is of value both to the mother and child. Even physicians who are not convinced of this would generally agree that abrupt weaning is not desirable.

Nor is temporary weaning usually ideal, since weaning for more than a few feeds may result in the baby refusing the breast. Furthermore, many exclusively breast-fed infants will not accept artificial nipples, the baby may get inadequate fluids, and the family may be very frustrated.

**Maternal medications.** Some principles determine whether a drug is safe for a nursing mother:

- Drugs that would normally be considered safe for the baby (eg, amoxicillin, erythromycin, acetaminophen) may be taken by the mother;
- Drugs that are poorly absorbed from the gastrointestinal tract (eg, gentamicin, heparin, halothane) may be given to the mother; and
- Drugs that should be used with caution during the first few weeks of infancy (eg, benzodiazepines) may be safe at a later stage.

If mere exposure to a drug is the issue, it can be reasonably stated that any drug that is considered safe during pregnancy should also be considered safe during lactation, since during pregnancy the fetus is exposed to higher concentrations of drug at a more sensitive time. However, with many drugs (eg, phenobarbital), the issue is the accumulation of the drug, and the answer is not always clear. For example, with phenobarbital it may be more of a problem to start the mother after delivery than to continue medication that had been started during pregnancy. A baby exposed to the drug during pregnancy will develop enzymes to metabolize phenobarbital and thus may be able to handle the amount received in the milk without accumulation.

When information is not available or is contradictory, a reasonable alternative to weaning is to use the drug carefully and continue breast-feeding. The baby should be followed up closely, and serum levels measured when available.

Drugs that are commonly considered contraindicated for breast-feeding mothers but which should not be include magnesium sulfate,<sup>9</sup> propylthiouracil (PTU),<sup>10</sup> propranolol,<sup>11</sup> warfarin,<sup>12</sup> prednisone,<sup>13</sup> and tetracycline.<sup>14</sup> At times, recommendations are bewildering. Many pediatric texts

state that a mother taking isoniazid (INH) should not breast-feed. Yet prophylactic treatment with INH is usually recommended for a small baby living in a household with a sputum-positive person.

### Maternal illness

When the nursing mother becomes ill, many doctors advise cessation of breast-feeding, though this is rarely necessary. Of course, if the mother is catastrophically ill, or if she is unable to manage the breast-feeding because of exhaustion, malaise, or pain, then temporary weaning may be necessary. However, under most circumstances, breast-feeding may continue.

One common reason that physicians advise stopping breast-feeding is maternal fever. Most febrile illnesses are due to viral infection, and many viral infections are most infectious before the mother is aware she is ill. Given the usual close contact between a mother and infant, especially if they form a nursing couple, it is likely that the baby has already picked up the infection by the time the mother has fever. It seems illogical to stop breast-feeding at this point, since the breast milk is likely to contain host resistant factors that may decrease the severity of the illness in the child.

Chicken pox follows this pattern, but is a particular problem if the mother develops lesions between about 5 days before and 2 days after delivery of the baby. In that case, the newborn almost certainly has been infected but has not received maternal antibody, and is thus at particularly high risk for severe disease. There is, however, no reason to stop breast-feeding, since it is assumed that the baby has already been infected in utero. The baby requires zoster immune globulin, and if at special risk (eg, because of prematurity), may require acyclovir. But the baby may breast-feed.

Mastitis is painful, but if the mother is able to, she should breast-feed on the affected side.<sup>16,17</sup> The usual organism causing mastitis is *Staphylococcus aureus*. The infection should be treated with an appropriate penicillinase-resistant antibiotic (most of which do *not* contraindicate breast-feeding). The mother should rest and take adequate fluids. Even breast abscess may not require weaning from the affected side, since the abscess rarely connects with a milk duct, so

the baby is unlikely to ingest pus.<sup>17</sup> If temporary weaning from a breast with mastitis or abscess is thought necessary, it should be remembered that most women are perfectly capable of nursing an infant on one breast only.

Most other maternal illnesses are thought to be contraindications to breast-feeding because of the medication required. I repeat that most medications can be used by nursing mothers without undue risk to the baby.

A special situation arises when the mother shows clinical signs and biochemical evidence of hyperthyroidism. In order to distinguish postpartum thyroiditis from Graves disease, many physicians prefer to do a radioactive iodine uptake of the thyroid. However, if the mother is to continue breast-feeding, she must not have a radioactive iodine uptake or scan, as the radioactive iodine will appear in her milk for weeks, and, of course, some of it will be concentrated in the infant's thyroid. The long-term risk from such exposure is not known, but it is a serious concern. Another solution must be found to allow the mother to breast-feed. The mother may be treated symptomatically with propranolol and followed. In postpartum thyroiditis, the serum T4 and T3 are proportionately elevated, whereas in Graves disease, there is usually a much greater increase in total T3. Furthermore, in postpartum thyroiditis, elevated T4 and T3 will begin to decrease within about 6 weeks, which is unlikely to occur in Graves disease (personal communication from Volpé R). If treatment of Graves disease is necessary, propylthiouracil is not contraindicated for the breast-feeding mother.

Most other investigations do not contraindicate breast-feeding. Mothers have been told to stop breast-feeding because they need mammography, intravenous pyelography, barium enema, and even chest radiography. But none of these procedures are contraindicated in nursing mothers.<sup>17</sup> Radioactive isotopes, depending on the type, are excreted in the milk for variable times after injection, so that it is best to avoid nuclear medicine studies in lactating women if possible. If it is not possible to avoid the study, guidelines are available for the length of time to stop breast-feeding

after injection.<sup>18</sup> Breast-feeding should be discontinued for as short a period as possible. Note that technetium is frequently used for radioactive scanning of infants.

Transmission of virus in breast milk is of considerable concern. A particularly sticky question is how to advise a healthy mother who is HIV positive. This problem has been reviewed recently.<sup>19</sup> Little is known about the risk of transmitting HIV infection through breast milk. Although it may be that there is little risk of a healthy carrier transmitting the infection to the infant, it is perhaps safer, for the moment, in developed countries, to recommend formula feeding.

Other viruses that may be present in breast milk do not require cessation of breast-feeding. It is likely that hepatitis B virus will be transmitted to the newborn during delivery due to the ingestion of maternal blood or other secretions. A study from Taiwan showed no difference in infection rates between bottle fed and breast-fed babies.<sup>20</sup> Furthermore, babies of hepatitis B carriers are now routinely immunized and given immunoglobulin, reducing the theoretical risk even more.<sup>21</sup> Other viruses, such as cytomegalic virus or rubella virus, cause serious illness only if the infant is infected during pregnancy, so that the presence of the virus in breast milk does not contraindicate breast-feeding. By the same token, immunization of the mother with rubella or other viruses is not likely to cause problems and breast-feeding may continue.<sup>22</sup>

A new pregnancy in a lactating mother is frequently cited as a reason to discontinue breast-feeding. Many cultures consider pregnancy an imperative to weaning. In fact, there is no good evidence available to support either weaning or continued breast-feeding. A theory has been postulated, but never supported, that repeated oxytocin release with breast-feeding might increase likelihood of spontaneous abortion. Increasingly, mothers are breast-feeding through pregnancy and some continue nursing both a toddler and infant. The breast-feeding clinic policy has been to support the parents' decision, whatever it may be, as long as there is no other reason for concern.

Finally, if the mother requires hospitalization for medical problems or surgical



**Figure 1. IMPROVED LACTATION AID:** *The baby feeds at the breast, but is supplemented through a tube, which passes from a bottle, along the breast and into the baby's mouth. In general, the bottle should not be higher than the baby's mouth. The baby should suckle to get the milk and not be siphoning milk. Commercial devices are also available.*

procedures, breast-feeding can usually be continued. Most anesthetics and analgesics do not contraindicate breast-feeding. The enlightened hospital will allow the baby to room in with the mother during her hospitalization so that she can feed the baby when the baby requires. Of course, hospital staff may have to help the mother put the baby to the breast if the mother is unable to move around easily. A less acceptable alternative is to let the baby board in the nursery, but this is often not practical because of staff shortages and distance from the nursery to other wards.

### **Breast problems**

Previous surgical procedures on the breast may cause some problems in breast-feeding. Breast reduction surgery seems to be the most problematic in the experience of our clinic staff. Though it is theoretically possible to breast-feed as long as most of the

milk ducts have not been damaged, most mothers have problems. It should not be assumed, however, that the mother would be unable to breast-feed. We have followed a few mothers who had had breast reduction surgery who were able to breast-feed without problems and without supplements.

A cautiously positive attitude can be taken and the management of breast-feeding in the first few days postpartum should be optimal, as it should be for all breast-feeding mothers and infants. (The baby should be put to the breast within minutes of delivery, allowed to nurse without limitation of frequency or time, given no bottles or pacifiers, and allowed to room in with the mother 24 hours a day. The mother should be shown early on how to position and latch the baby on properly so as to avoid nipple pain.)

If it appears that lactation is inadequate, a lactation aid (*Figure 1*) can be used

to supplement formula without artificial nipples, which often result in the baby rejecting the breast.<sup>1</sup> The device can be improvised from hospital materials as in *Figure 1* or can be bought ready made (Lact-Aid, Medela SNS). Of course, a lactation aid can be used whenever lactation appears to be inadequate, for whatever reason.

Breast augmentation surgery does not often appear to cause problems with lactation in our experience (though our experience is not large). Other clinics have reported problems, however. Mothers who have had breast enlargement should not be discouraged from breast-feeding. Again, a cautiously optimistic attitude is appropriate, with close observation for adequacy of lactation, and a supplementary nursing system in case of inadequate lactation. Similarly, flat or inverted nipples should not cause problems if breast-feeding management is optimal. Suck training<sup>23</sup> can be used to help a baby latch on to the breast whenever the baby is reluctant to take the breast.

Ingestion of blood from cracked nipples, though frightening for the parents and occasionally a source of diagnostic confusion for the physician, does not appear to harm the infant. Infants do regurgitate more frequently if they have ingested blood, but otherwise do not seem bothered. Management is aimed at correcting the cause of sore nipples.

### **Infant reasons**

**Infant illness.** Infant illness rarely contraindicates breast-feeding. The one absolute contraindication to breast milk is galactosemia, in which the body's inability to metabolize galactose results in mental retardation, cataracts and cirrhosis of the liver unless galactose (one of the two sugars making up lactose) is eliminated early from the diet. There may be other rare metabolic disorders that make breast-feeding impossible. However, because of the relatively low level of phenylalanine in breast milk, the baby with phenylketonuria may be breast-fed, though usually not exclusively. Our PKU clinic has had good success with breast-feeding using lactation aids to supplement with low phenylalanine milk (personal communication from Hanley et al).

Infants with Down's syndrome, with

cleft palate and/or lip, or with other congenital anomalies can be breast-fed. Infants with neurologic abnormalities, congenital or acquired, can also be breast-fed.<sup>24</sup> Premature infants can be breast-fed. Indeed, in our experience, mothers with "special" infants often have a much greater motivation to breast-feed, undoubtedly at least partly stimulated by the need to "make it up to the baby." In such cases, ideal management of the beginning of breast-feeding is even more important than with the normal newborn. For example, it is commonly held that premature babies need to get used to bottles before trying breast-feeding because it is more stressful to breast-feed. There is no evidence for this. Indeed, there is growing evidence that it is more stressful for the premature baby to bottle feed than to breast-feed,<sup>25,26</sup> and stratagems have been successfully developed to get the premature baby breast-feeding without using any bottles.<sup>27,28</sup>

Mothers are frequently advised to stop breast-feeding when infants develop gastroenteritis. This is unfortunate, because continuing breast-feeding usually results in more rapid recovery from gastroenteritis.<sup>29</sup> As well, during an illness that may cause anorexia the child may be willing to take fluids only from the breast. For the usual vomiting and diarrheal illness that is seen in North America, breast-feeding alone will usually maintain hydration without any recourse to oral rehydration or maintenance solutions. Finally, as with all infant illness, the mother is frequently able to comfort the sick child at the breast, and (a factor that is usually forgotten) the child is able to comfort the mother by nursing. Although lactose intolerance secondary to gastroenteritis seems to concern many physicians, it does not appear a clinically significant problem in most cases. However, if lactose intolerance does occur, commercial lactase (Lactaid) can be put on the nipple or into the infant's mouth just before nursing. We have used this stratagem several times with success.

There exists an unproved impression that milk causes increased secretions during respiratory illness. Because of this, some doctors still direct mothers to stop nursing during episodes of croup, bronchiolitis, and other respiratory infections. The infant with respiratory difficulty may find it diffi-

cult to breast-feed, but there is no proof that breast-feeding is harmful. Indeed, by allowing the mother to comfort the child, breast-feeding is frequently beneficial.

**Hyperbilirubinemia.** Hyperbilirubinemia causes much confusion when the mother is also breast-feeding. Because of a relatively uncommon entity known as breast milk jaundice, many physicians assume that breast-feeding is a factor in any jaundiced infant. In fact, breast milk jaundice should only be diagnosed if the baby is older than 1 week of age, since it usually does not start before the fourth or fifth day. (Many affected infants have also had physiologic jaundice, but the bilirubin is usually falling by the fourth or fifth day, only to start rising again.) Other diagnostic criteria are that the baby is gaining weight very well, has three to four substantial yellow bowel movements each day, shows no evidence of direct hyperbilirubinemia, and no evidence of other causes of indirect hyperbilirubinemia (eg, hemolysis, urinary tract infection, hypothyroidism). The level of bilirubin in breast milk jaundice usually peaks at 10 to 20 days and continues for up to two months or more. There is no evidence that breast milk jaundice is harmful, though there are no long-term follow-up studies available. There is no need to prove the diagnosis or take the baby off the breast. Some physicians will take the baby off the breast if the bilirubin is high ( $\geq 350 \mu\text{mol/L}$ ), but it is rarely necessary to stop breast-feeding for more than 24 hours. Often substituting formula for only a few feeds will result in a substantial drop in the bilirubin level. This topic has been well reviewed recently.<sup>30</sup>

Indirect hyperbilirubinemia during the first week of life is quite another matter, however. Although the causes are legion, the most common cause is physiologic jaundice. And the most common cause of an exaggerated physiologic jaundice is that the baby does not take enough breast milk. This is frequently due to the poor initial management of breast-feeding (delayed and infrequent feeding, limitation of feeding, poor positioning and latching on of the baby, early introduction of artificial nipples), which results in a low milk intake. A low milk intake results in infrequent, scanty, or no bowel move-

ments leading to an increased enterohepatic circulation of bilirubin.

The answer in such a situation is not to stop breast-feeding (as is frequently done) or to give extra water, which does not help,<sup>31-33</sup> but rather to offer the breast more frequently.<sup>34</sup> If the baby suckles poorly or seems to be taking in inadequate quantities, a lactation aid may be used to supplement fluids or formula. Of course, prevention is better than treatment. "Not-enough-breast-milk jaundice" (exaggerated physiologic jaundice due to inadequate intake of breast milk) is prevented by the proper management of breast-feeding.

**Failure to thrive.** Failure to thrive on the breast alone may be due to the mother's physiologic incapacity to produce an adequate milk supply,<sup>35</sup> though this seems to be extremely unusual. There are, of course, many possible causes, and a full discussion is beyond the scope of this paper. However, many cases of failure to thrive on the breast are caused by poor management of the initial days of breast-feeding; a vicious circle develops, with the baby suckling poorly and milk supply decreasing due to the poor suckling. Whatever the cause, it is not unusual, in our experience, for physicians to advise total weaning and substitution of formula for breast milk when the baby fails to gain adequately. This tactic may get the baby gaining but at the sacrifice of breast-feeding. The use of a lactation aid to supplement formula will allow the infant to receive extra calories without using an artificial nipple and thus allow breast-feeding to continue. About 40% of the mothers seen in our breast-feeding clinic who use the lactation aid because of failure to thrive are subsequently able to breast-feed without supplementation, after a period of supplementation which may last from only a few days to 6 to 8 weeks. During the past 6 years we have used this device for over 600 mother-infant pairs without any adverse side effect.

### Conclusion

There are few reasons to stop breast-feeding when the mother and infant wish to continue. Most reasons given in the past have been shown over the last few years to be invalid. Breast-feeding can usually be

continued if the physician accepts that breast-feeding is important, and makes allowances for the breast-feeding mother and infant. Unfortunately, all too often, breast-feeding has been seen as an impediment to ideal medical management. However, imagination, commitment, and a willingness to change routines established in the days of predominant bottle feeding will help the physician find stratagems for maintaining breast-feeding. ■

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